

*U.S. Forest Service*

# RESEARCH NOTE



**CENTRAL STATES FOREST EXPERIMENT STATION  
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## CONSUMPTION OF COOPERAGE LOGS IN THE CENTRAL STATES--1964

About half of the cooperage timber harvested in the Nation comes from Central States forests. In 1964 the 87 cooperage mills in the Region cut 100 million board feet of logs and bolts into staves and heading (table 1). Cooperage-log consumption was 4 percent greater in 1964 than in 1962 when the last survey was taken.

Consumption per mill ranged from as little as 4,000 board feet to as much as 6 million board feet but the average of 1.1 million board feet per mill was almost 200,000 board feet greater than in 1962.

The regional change in consumption was small compared with changes that occurred in individual states. Missouri

Table 1.--Consumption of cooperage logs and bolts by state, 1964

| State                              | : Active :<br>:stave mills: |  | Volume consumed | : Change :<br>:from 1962; as stumpage <sup>1</sup> / |         |
|------------------------------------|-----------------------------|--|-----------------|--|---------|
|                                    | Number                      | Thousands<br>board feet <sup>2</sup> / |                 | Percent  | Percent |
| Missouri                           | 35                          | 37,842                                 | 37.9            | + 35.3   | 1,892   |
| Kentucky                           | 21                          | 21,385                                 | 21.4            | + 4.3  | 1,069   |
| Ohio                               | 12                          | 17,303                                 | 17.3            | + 36.7   | 865     |
| Illinois                           | 10                          | 15,101                                 | 15.1            | - 40.5   | 755     |
| Indiana and<br>Iowa <sup>3</sup> / | 9                           | 8,228                                  | 8.3             | - 15.6   | 412     |
| Total                              | 87                          | 99,859                                 | 100.0           | + 3.8  | 4,993   |

<sup>1</sup>/ Calculated on basis of \$50 per thousand board feet.

<sup>2</sup>/ International 1/4-inch log rule.

<sup>3</sup>/ Combined to prevent disclosure of individual mill consumption.

mills used 38 million board feet in 1964, about 35 percent more than in 1962. Ohio mill consumption increased 37 percent. The number of active mills in Illinois decreased from 16 to 10 between surveys and the State's consumption dropped 40 percent.

We estimate that 100 million board feet of cooperage timber was harvested in the Central States during 1964. This figure is approximate because complete information on the volume of cooperage timber cut in the Central States and shipped outside the Region for milling was not obtained. Our estimate is based on partial data indicating that the volume of logs shipped out of the Region approximately equaled the volume shipped into the Region. We estimate that individual states harvested the following volumes:

| <u>State</u> | <u>Harvest</u><br>(Million board feet) |
|--------------|--|
| Missouri     | 35                                     |
| Kentucky     | 23                                     |
| Ohio         | 16                                     |
| Illinois     | 14                                     |
| Indiana      | 6                                      |
| Iowa         | 6                                      |
| Total        | 100                                    |

While current statistics are not available for states in other regions, on the basis of past records, we believe Missouri led the Nation in the harvest of cooperage logs in 1964.

Only about 5 percent of the timber cut from the Region each year is manufactured into cooperage, so in terms of volume cut cooperage logs rank a distant fourth behind saw logs, fuelwood, and pulpwood. But cooperage logs are more valuable than most other forest products. The cooperage timber cut in the Central States in 1964 was worth about \$5 million on the stump (fig. 1). Delivered at the mill its value grew to more than \$9 million. By comparison, the Region's pulpwood harvest which was about three times as large as the cooperage-log harvest, had an estimated value of less than \$8 million delivered at the mill.

FIGURE 1.--Large, high-quality white oak trees are preferred for tight cooperage.



Most cooperage mills are movable, so it is not surprising to find the Region's 87 mills located in or near heavy concentrations of white oak sawtimber (fig. 2). Eighty-five of these mills produced tight cooperage, used mainly by the bourbon industry and made from species of the white oak group, chiefly white oak (Quercus alba) itself. Most other species in the group, except chestnut oak (Q. prinus) which lacks tyloses in many of its pores, were used to some extent.

During 1964, the Region's mills obtained 91 percent of their cooperage timber from the state in which they were located (fig. 3). Another 7 percent came from other Central States, and the remainder, from outside the Region. Only Illinois mills depended very heavily on out-of-state wood, obtaining 22 percent of their logs from Iowa, Indiana, Missouri, and Wisconsin.

Shipments of cooperage timber into the Region amounted to 2.4 million board feet--2 1/2 times more than in 1962. More than half of this incoming volume went to Ohio mills.

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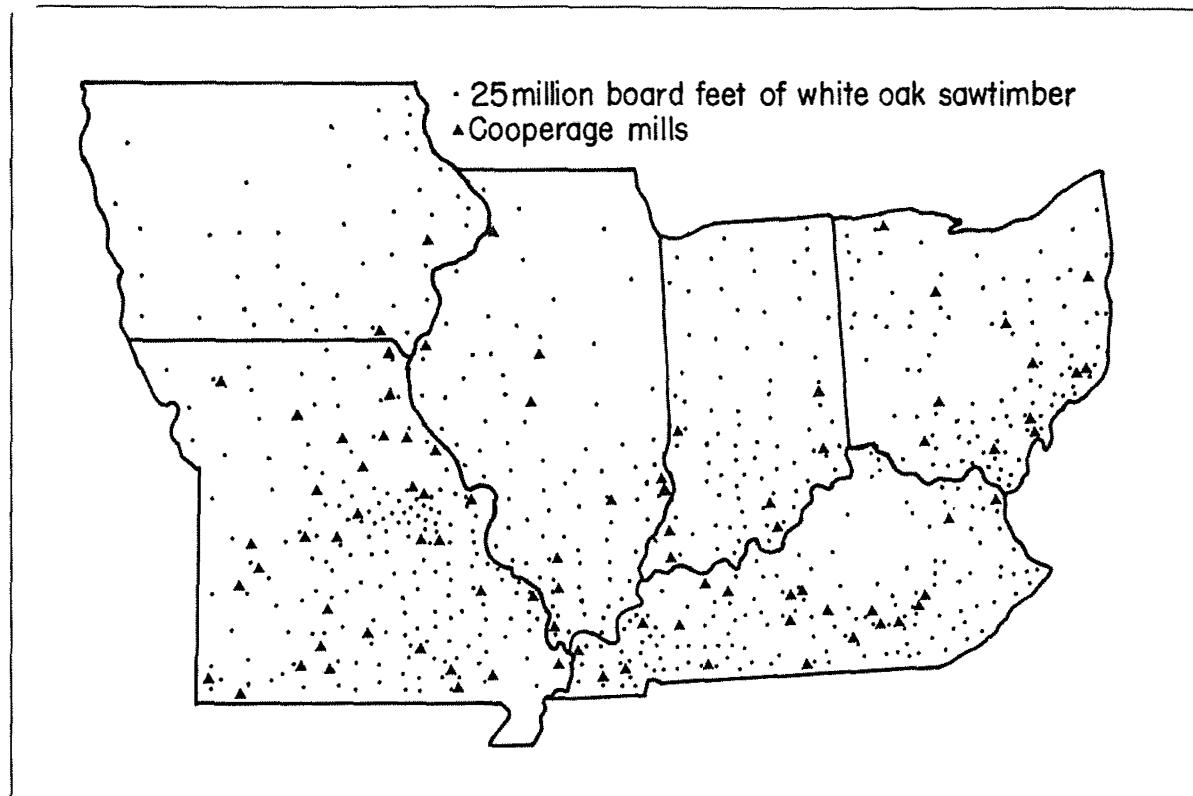


FIGURE 2.--Location of cooperage mills and general distribution of white oak sawtimber in the Central States, 1964. (Includes all species of white oak except chestnut (*Q. prinus*)).

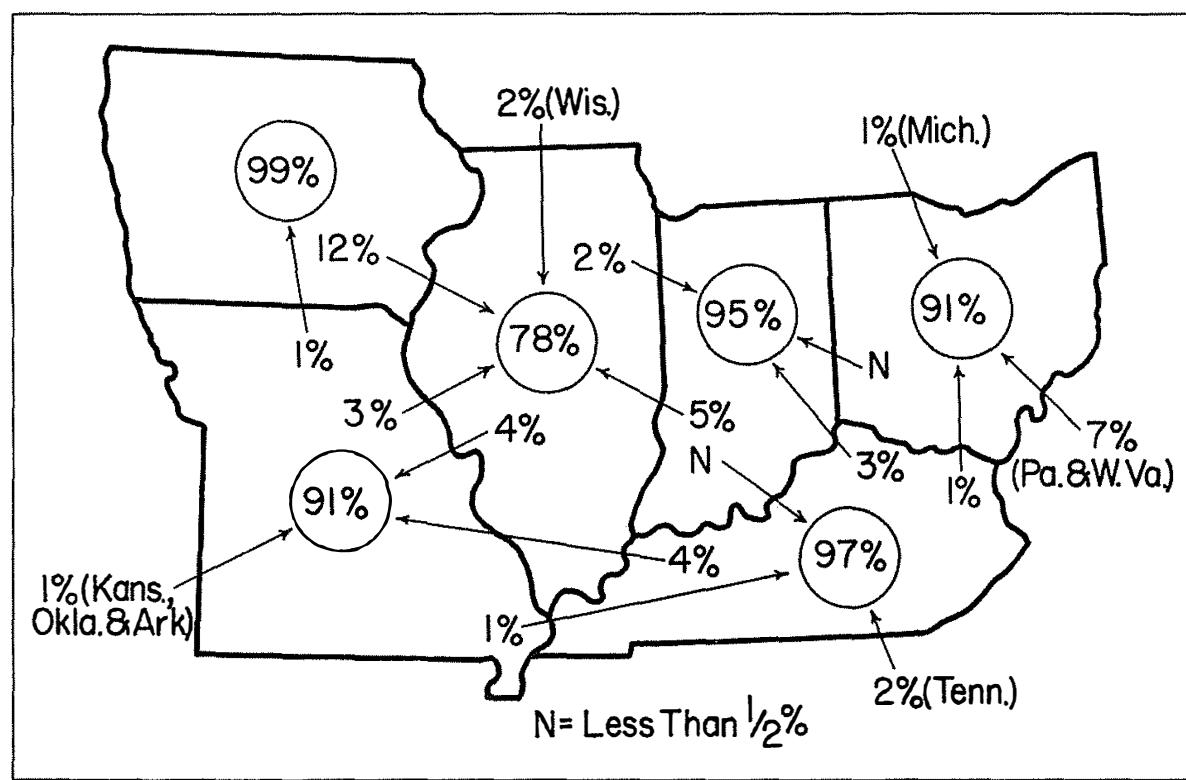


FIGURE 3.--Source of cooperage timber consumed by Central States mills, 1964. (Explanation: 91 percent of the cooperage timber consumed by Ohio mills was harvested from Ohio woodlands. The rest was shipped in from Michigan, Kentucky, West Virginia, and Pennsylvania.)